ABSTRACT

In networks having interconnected layer 2 switches, the Spanning Tree Protocol (STP) chooses one of the switches as the root switch. Each of the other switches has a "root port" and one or more "designated port(s)" chosen by the STP. The root port of a L2 switch is the port through which the switch transmits packets upstream through the logical tree toward the root switch. Through the designated ports the switch transmits packets downstream to other switches at a lower logical layer in the tree. Some ports of a switch may be put into "blocked" state by the STP in order to prevent loops in the L2 network. In the invention, the administrator, a person, of the core network identifies which ports of switches belonging to the core network are boundary ports to a customer owned network. The administrator of the core network designates the boundary ports as "root guard protected" ports (RG ports). The Spanning Tree Protocol then executes as required by the ordinary STP protocol. Software then checks the status of a RG port. In the event that a RG port is selected by STP as a "designated port", then operation of the network begins with packets being exchanged through that designated port. In the event that the RG port is selected by the STP to be a root port, then the status of the port is set to "blocked", and no packets are transmitted through the port.